

Highlights of 60 Years of Processing Tomato Research in California



Dr. Diane M. Barrett (Emerita)
Department of Food Science & Technology
University of California – Davis

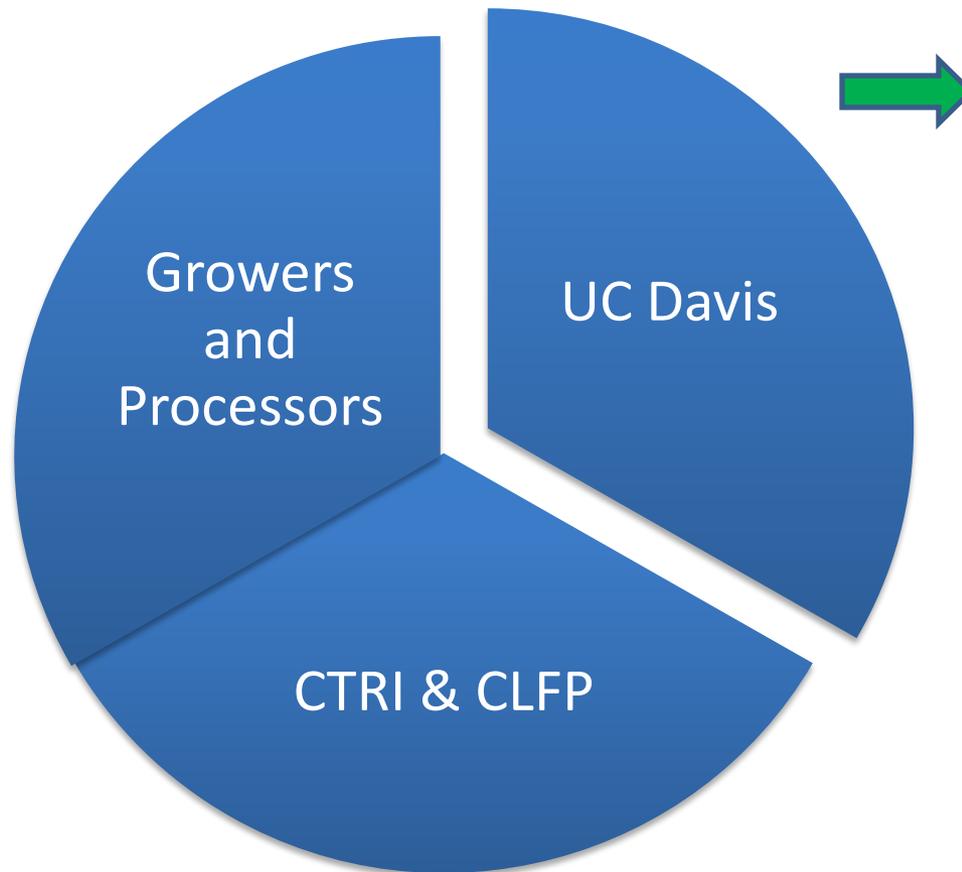
Rob Neenan, President/CEO
California League of Food Producers

Outline of Presentation



- Research Collaborations – Past & Present
 - California League of Food Producers
 - University of California – Davis
 - Growers and Processors
- Materials Used for Research Review
- Research Highlights
 - Financial Allocations
 - Research Topics
 - 1957-2000 – Breeding, Disease Resistance
 - 2001+ - Variety Evaluation, Peelability, Sorting, Pectic Enzymes & Viscosity, Color, Mold, Quality
- Future Research Needs

Processing Tomato Research Cooperation



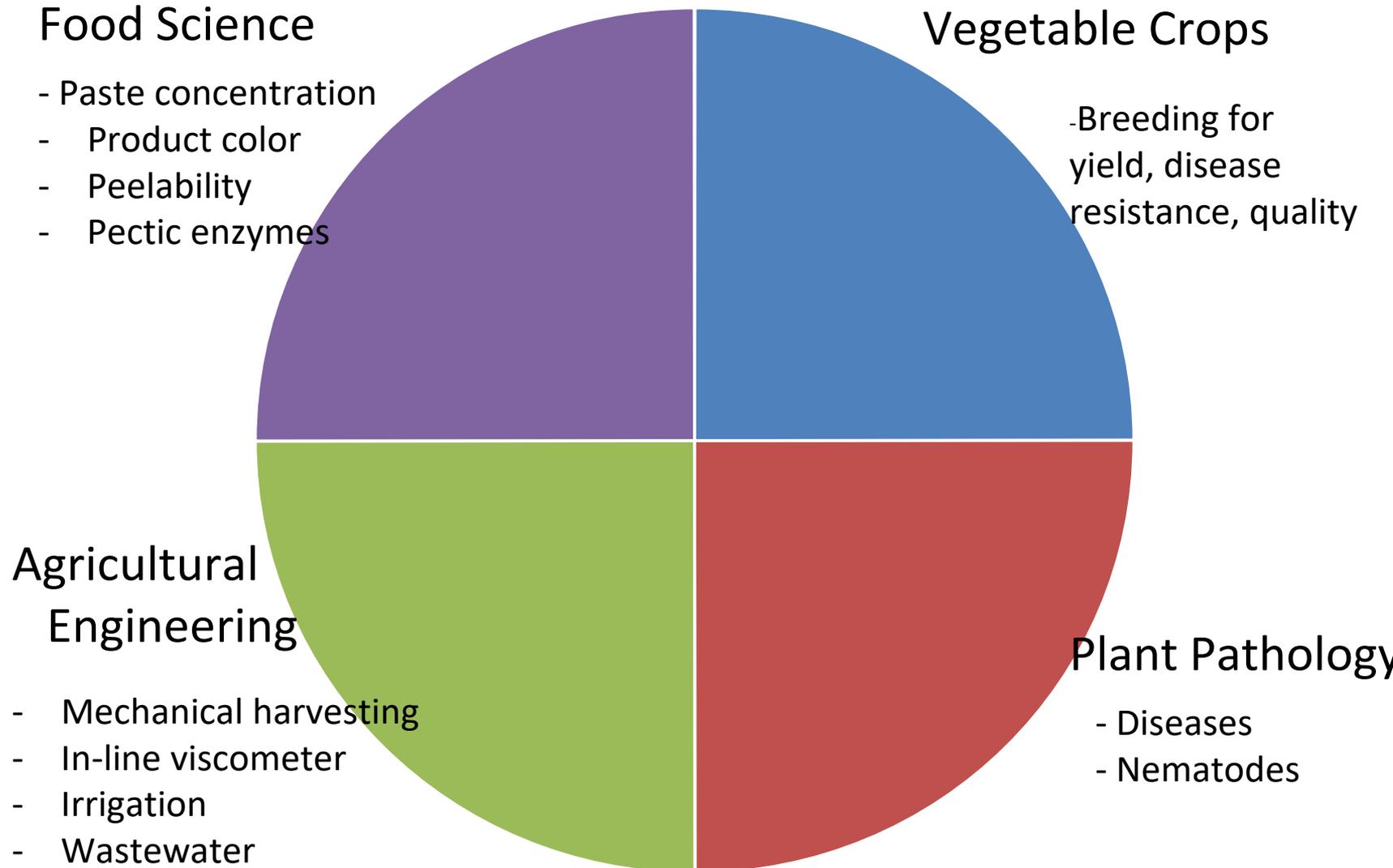
Department of Food
Science Example

- 1978* ~ 8 faculty & staff
- 1992 ~ 5 faculty & staff
- 2018 ~ 3 faculty & staff

*Diane graduated from UCD with BS in 1978, hired as faculty member in 1992.

Examples of Successful Cooperation

between Growers, Processors, CTRI, CLFP and the University



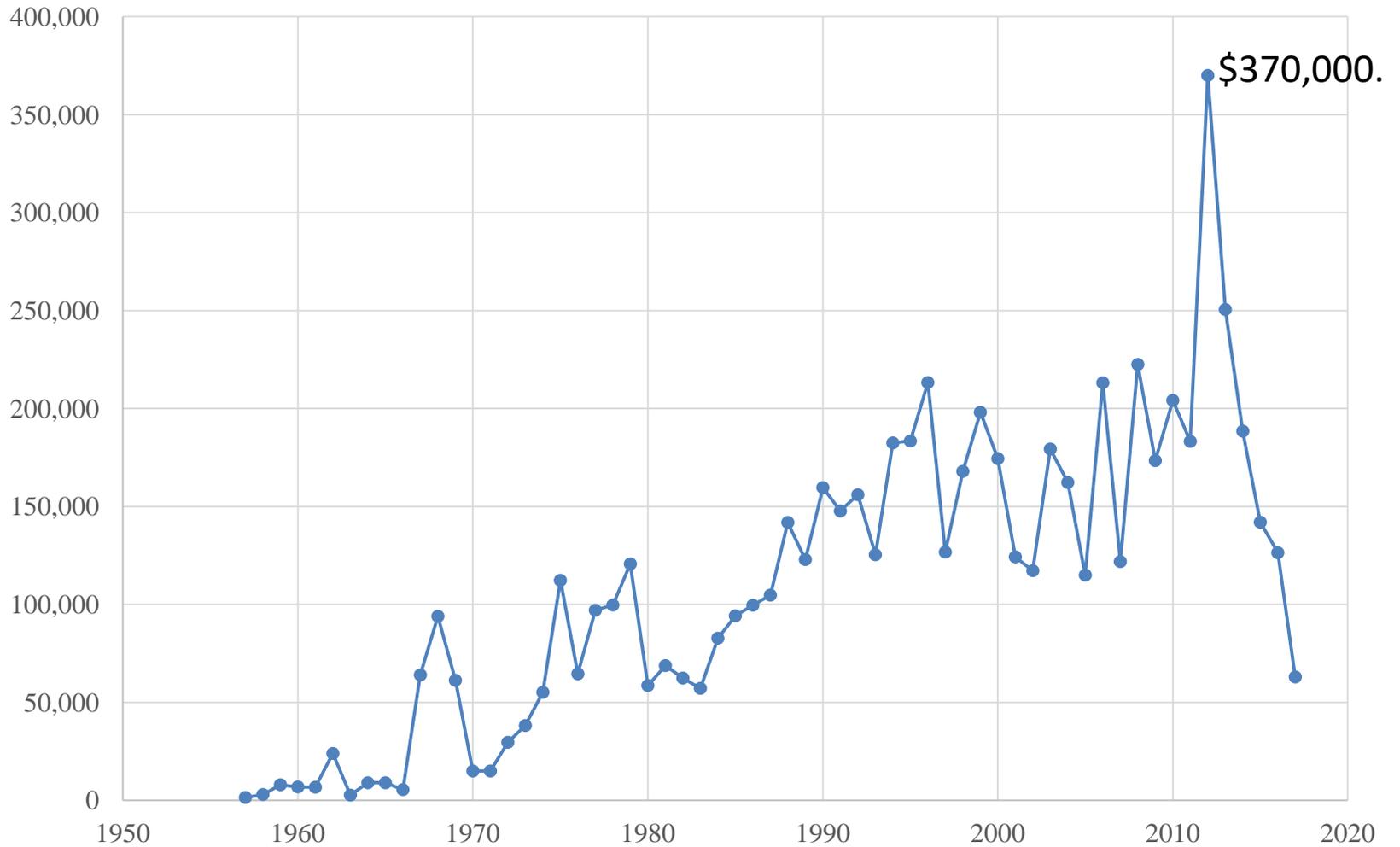
Materials for Research Review



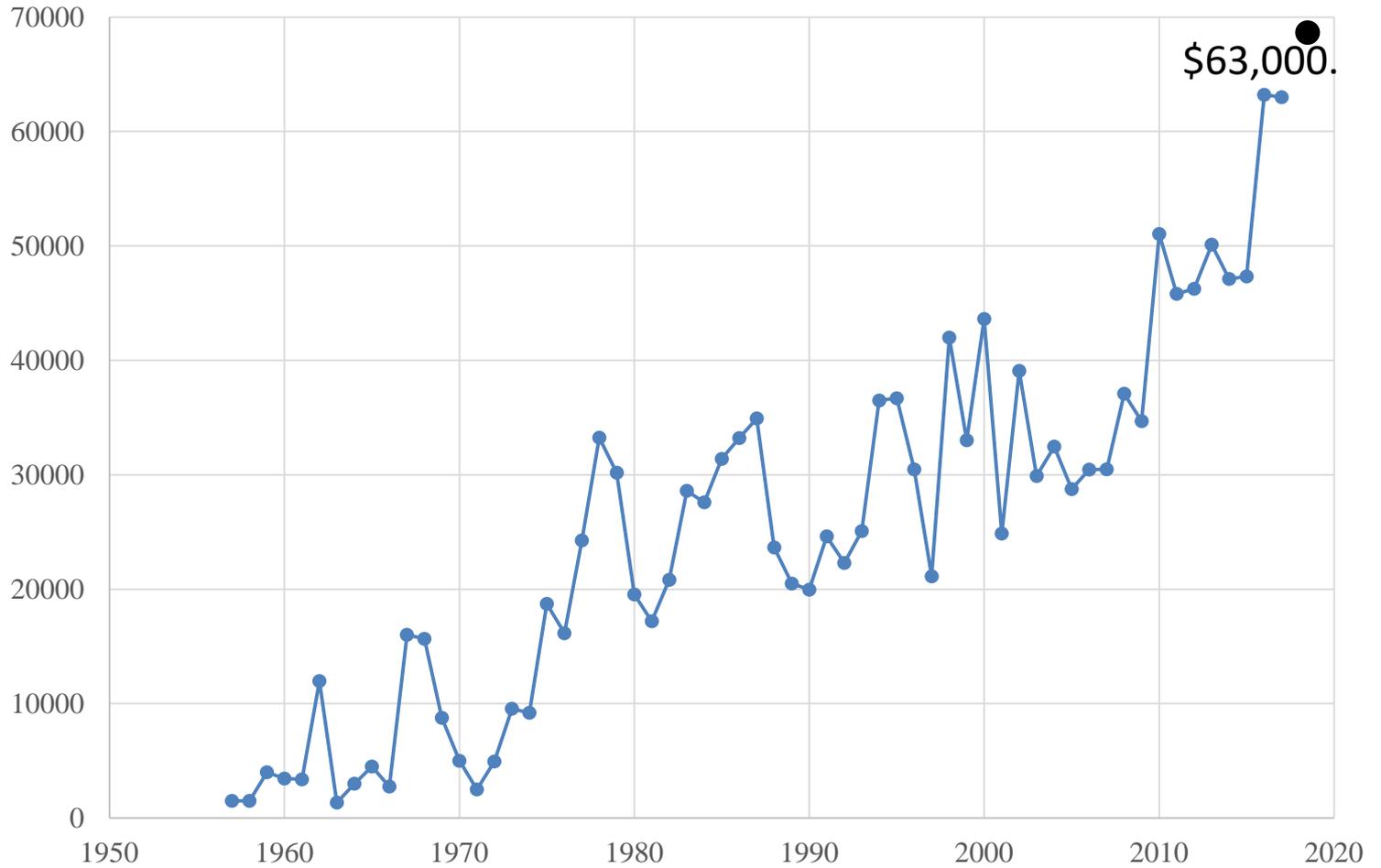
- A **summary of processing tomato research** funded by year, research topic, amount of funding and accumulated total was provided by the CLFP.
- Minutes from an October 2017 **“research needs” meeting** of the CLFP Processing Tomato Research Committee and CTRI with UC Davis, Fresno State and US Dept. of Agriculture researchers.

RESEARCH HIGHLIGHTS

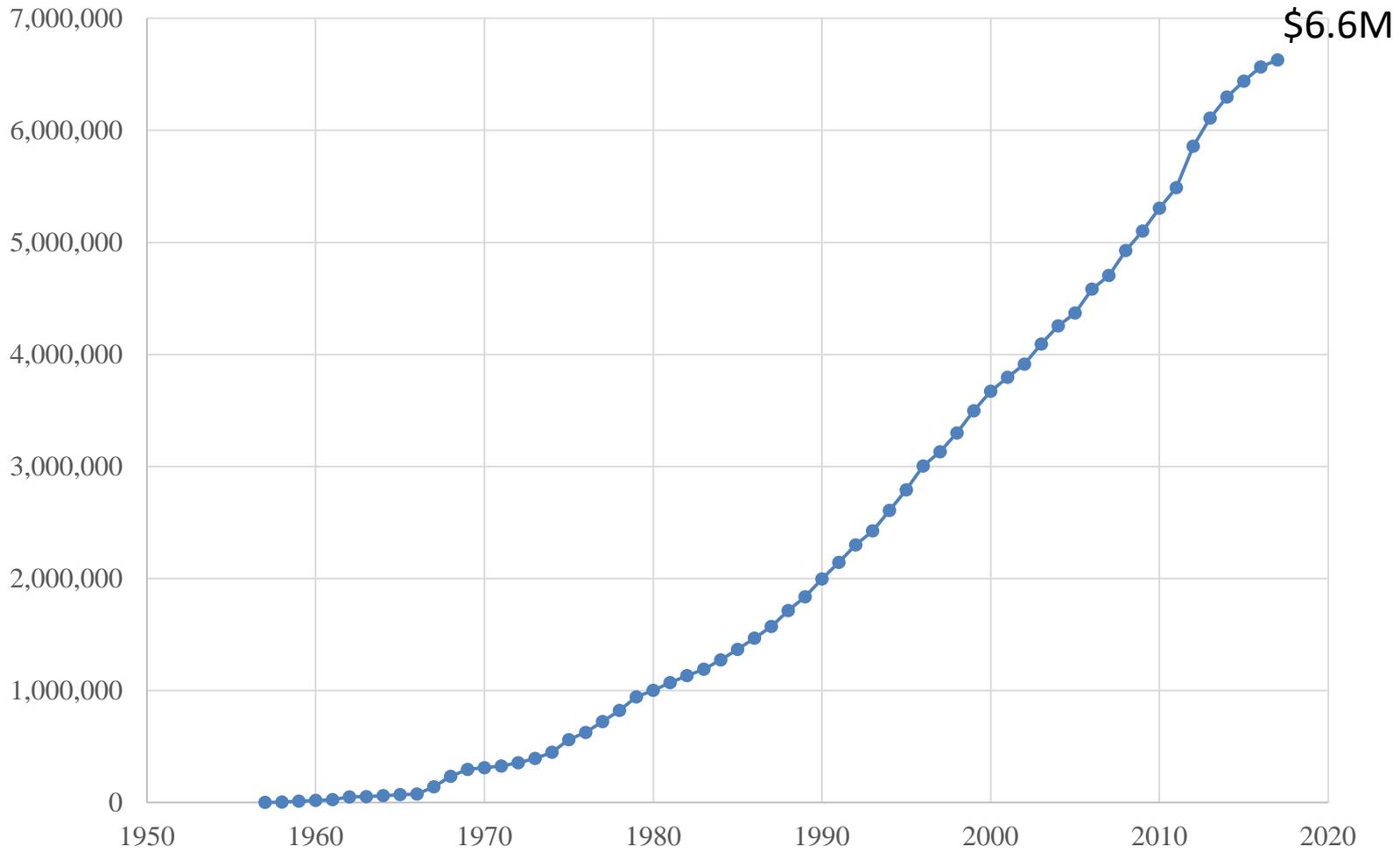
Total Annual Research Allocation (US\$)



Average Allocation per Project (us\$)



Accumulated Total Funding (US\$)



Research Fund



- **\$6.6 Million** from the **California industry** over a 60 year period
- Does not include research funded by individual industry members
- Does not include projects funded such as wastewater land application manual
- **UC contributions** include in-kind donation of faculty member's time, facilities and laboratory instruments

Most Frequently Funded Research Topics

Research Topic	Years Funded	Total Years
Breeding	1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1998, 1999, 2000, 2001, 2015	45
New Variety Process Evaluation	1963, 1964, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013,	41
Paste Concentration and Product Performance	1985, 1986, 1987, 1988, 1991, 1992, 2006, 2007, 2008, 2009, 2012	11
Product Color	1974, 1975, 1976, 1977, 1979, 1980, 1992, 2012, 2013, 2014	10

Future Research Needs



- In-plant water use and conservation
- In-line wireless sensors
- Rapid food safety/spoilage testing
- Reducing energy use – alternative technologies (HPP, Microwave etc.)
- Automated collection, processing, and reporting of production/process data
- Wastewater management
- All require **more** cooperation between growers, processors, university and CLFP